



THE OFFICIAL PUBLICATION OF THE PUBLIC WORKS ASSOCIATION OF BRITISH COLUMBIA, THE ALBERTA PUBLIC WORKS ASSOCIATION, THE SASKATCHEWAN PUBLIC WORKS ASSOCIATION, THE MANITOBA PUBLIC WORKS ASSOCIATION, AND THE ALBERTA MUNICIPAL SUPERVISORS ASSOCIATION

THE ROADRUNNER

WINTER 2021

Composite Utility Poles:

A Resilient Option that Can Weather Storms, Fires, Rot, and Woodpeckers

Learn more starting on page 30.

FIND OUT
WHAT'S
HAPPENING
ONLINE

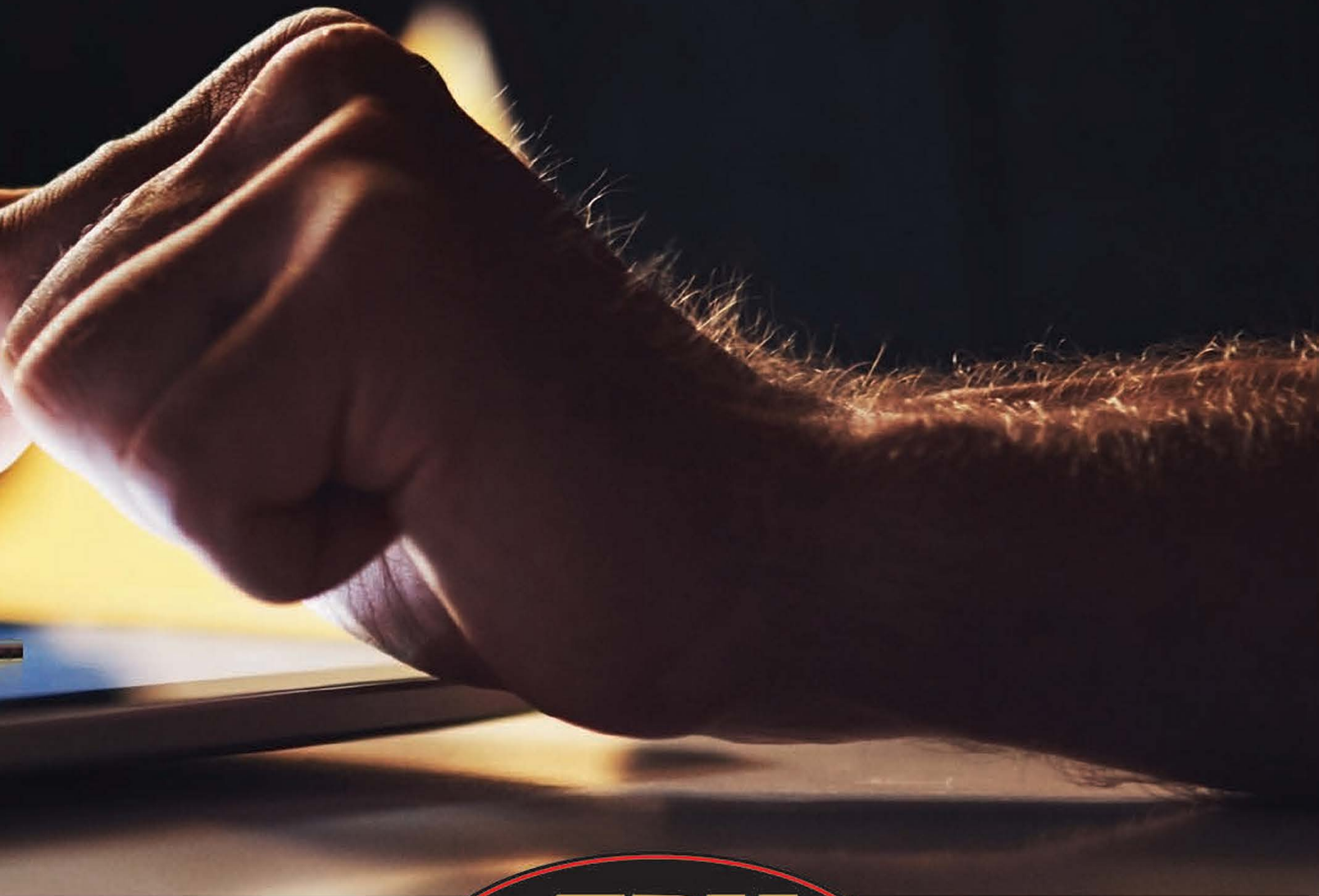


IMAGINE YO



YOUR BUSINESS STARTED AS A DREAM, TO GROW AND PROFIT. To get the personalized attention you want to help you on your way. The customization you need to meet your business's specific production goals. Consult with one of our specialists today to help configure just the right asphalt plant for you. Start your custom plant design today.

UR DREAM



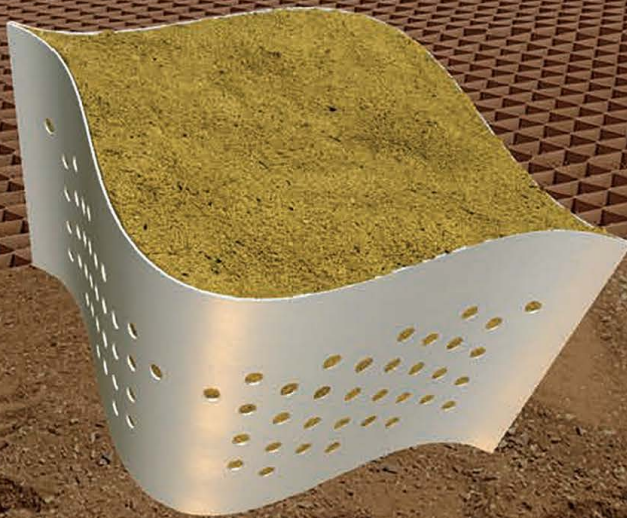
FULFILL YOUR DREAM

260-637-5729 • admasphaltplants.com



FROSTBOILS RUTTING + PAVEMENT FAILURE

**STOP REOCCURRING
MAINTENANCE NIGHTMARES**



TOUGH CELL®
**A LONG-TERM
SOLUTION TO
CANADA'S
FREEZE-THAW
CYCLES**

Published For:
The Public Works Association of British Columbia
20430 Fraser Highway
Langley, BC V3A 4G2
www.pwabc.ca
Editorial Advisor: Scott Lamont
Tel: 604-880-8585

The Alberta Public Works Association
PO Box 2235
Didsbury, AB T0M 0W0
Phone: 403-990-APWA • Fax: 888-812-7014
www.publicworks.ca
Editorial Advisor: Jeannette Austin
Tel: 403-990-2792

The Saskatchewan Public Works Association
http://saskatchewan.cpwa.net
Editorial Advisor: Andrew Stevenson
Tel: 306-244-8828

The Manitoba Public Works Association
http://manitoba.cpwa.net
Editorial Advisor: Steve Blayney
Tel: 204-509-7385

Alberta Municipal Supervisors Association
www.amsapw.ca
Editorial Advisor: Christine Heggart
Tel: 403-844-5678

Published By:
Matrix Group Publishing Inc.
309 Youville Street
Winnipeg, MB R2H 2S9
Toll Free: 866-999-1299
Toll Free Fax: 866-244-2544
www.matrixgroupinc.net
Canada Post Mail Publications Agreement Number: 40609661

President & CEO:
Jack Andress

Operations Manager:
Shoshana Weinberg
sweinberg@matrixgroupinc.net

Publishers:
Jessica Potter, Julie Welsh

Editor-in-Chief:
Shannon Savory
ssavory@matrixgroupinc.net

Senior Editor:
Alexandra Kozub
akozub@matrixgroupinc.net

Editor:
Jenna Collignon

Finance/Administration:
Lloyd Weinberg, Nathan Redekop
accounting@matrixgroupinc.net

Director of Circulation & Distribution:
Lloyd Weinberg
distribution@matrixgroupinc.net

Sales Manager – Winnipeg:
Neil Gottfred

Sales Manager – Hamilton:
Jeff Cash

Sales Team Leader:
Andrew Lee

Matrix Group Inc. Account Executives:
Brian MacIntyre, Cheryl Klassen, Colleen Bell, Frank Kenyeres,
Jim Hamilton, Rob Gibson, Sandra Kirby, Tanina Di Piazza,
Tenisha Myke

Advertising Design:
James Robinson

Layout & Design:
Cody Chomiak

©2021 Matrix Group Publishing Inc. All rights reserved.
Contents may not be reproduced by any means, in whole or in
part, without the prior written consent of the publisher. Opinions
expressed in this publication are not necessarily those of Matrix
Group Publishing Inc.

TABLE OF CONTENTS

Up Front

- 7 A Message from the Canadian Public Works Association
- 9 A Message from the British Columbia Public Works Association
- 11 A Message from the Alberta Public Works Association
- 13 A Message from the Saskatchewan Public Works Association
- 14 A Message from the Manitoba Public Works Association
- 15 A Message from Alberta Municipal Supervisors' Association

In Every Issue

- 16 HR Report: *Change is Inevitable, Transition is Intentional*
- 18 What's New?
- 21 Legal Brief: *The Role of Supplementary Conditions for Standard Form Contracts*
- 23 Safety Report: *Adopt Good Habits When Exiting Your Vehicle: Use Three Points of Contact Every Time*
- 25 Investment Report: *Safety is Inherent in Your Business, As Risk Management is in Mine*
- 27 Community Highlight: *Chestermere Partners with Local Companies to Pilot Innovations in Wastewater Processing*
- 28 Community Highlight: *Bridge-in-a-Box for the Municipal District of Smoky River, Alberta*

Tech Talk

- 30 Composite Utility Poles: A High-Performance Solution
- 32 New Solutions to Old Problems

34 Index to Advertisers

On the cover: This issue's cover photo was supplied by RS Technologies. Read about the benefits of composite utility poles starting on page 30.



VBLTM ValleyBladesTM LIMITED

FROM COAST
TO COAST,
CANADA'S
FIRST CHOICE
IN WEAR
SOLUTIONS.



WHERE THE TUNGSTEN CARBIDE MEETS THE ROAD.

Reduce your maintenance intervals and blade replacements with tungsten carbide cutting edges by Valley Blades Limited. Designed for long lasting durability, both PolarFlexTM and HighwearTM Blades provide greater productivity - and that's what really counts.



PolarFlexTM SEGMENTED SNOW BLADE SYSTEM

The PolarFlexTM snow blade follows the actual shape of the road, including all of its ruts and bumps. Divided into twelve inch segments, the PolarFlexTM cutting edge independently adjusts to the road's surface, providing more consistent contact with the ground. The steel and rubber components fully separate making PolarFlexTM 100% recyclable.

HIGHWEARTM PLOWS + WING BLADES

ValliteTM heat-treated (thru-hardened) one-piece and sectional blades are fortified by attaching hardened steel blocks to the back of the blade inside a welded steel housing. This effectively makes a blade with built-in "wear shoes".



RUNNERS

HOLDERS

ADJUSTERS

GUARDS

WEAR SOLUTIONS

VBLTM ValleyBladesTM LIMITED



1-800-461-1824 | sales@valleyblades.com | www.valleyblades.com

Waterloo
Edmonton
Barrie
Ottawa
Grand Prairie



A Message from the Canadian Public Works Association

Board of Directors

PRESIDENT

Patty M. Podoborzny
Sherwood Park, AB

PRESIDENT-ELECT

Rylan Wadsworth
Montreal-Ouest, QC

PAST PRESIDENT

Chris Hamel
Vaughan, ON

MEMBERS

Steve Blayney
Winnipeg, MB

Matthew K. Brown
Surrey, BC

Leon G. MacIsaac
Port Aux Basques, NL

Andrew G. Stevenson
Saskatoon, SK

Mike Walker
Fredericton, NB

BOARD LIASON

Gary Losier
Quispamsis, NB

STAFF LIASON

Anne Jackson
American Public Works Association
Washington, DC

Hello (Bonjour) from Beautiful Bruderheim, Alberta! I am pleased to introduce myself “virtually” as the President of the Canadian Public Works Association (CPWA) or l’Association Canadienne des travaux publics (ACTP) for 2020-21. The association is the linkage between the American Public Works Association (APWA) and its Canadian members. The CPWA ensures that we continue to advocate and be a resource at the Federal level of governance on issues that pertain to the association’s public policy priority areas. It is the Board of Directors’ hope to foster connections between all levels of government in the delivery of public services.

I am so very proud to be asked by my peers to represent “the voice of public works” in Canada. What does it mean to be “the voice of public works”? With over 25 years of in-the-field experience of public works, I can tell you, for me it’s about passion and commitment. The public works community is a humble one and very rarely do you hear from the unsung heroes that perform amazing acts of service every day – without accolades. Often public works staff are over burdened with competing priorities, which affects their mental and physical well-being. My passion to “be a voice” led me to the American Public Works Association, Alberta Chapter. I have served the Board for many years to help build resiliency in the public works profession through innovation and networking. That experience on the Board fueled my passion for advocacy of the public works profession. I want to provide the ministries in Ottawa the tools they need to be successful in creating community sustainability and resiliency when faced with natural disasters.

The COVID-19 pandemic is a public health and an emerging economic crisis unlike any other that most of us have faced

in our careers. In Alberta, we have had our share of natural disasters that pushed emergency management best practices to their limits. During those recovery phases, public works was recognized as part of the emergency responder team. This pandemic is different than any other emergency response public works teams have faced across this country. There is no clear beginning or end, or recognizable gains in the recovery phases.

The CPWA is continually looking for opportunities to advocate for partnerships and programs in delivering public works services across our nation. With public works working so hard to keep communities safe during the pandemic, the Board has chosen to focus on two public policy priority areas for 2020-21: emergency management and disaster mitigation, as well as sustainable and climate resilient infrastructure.

Those who support me know that I love for my voice to be heard! Unfortunately, our Board won’t be travelling to Parliament Hill in Ottawa this term to advocate for the “Power of Public Works.” We are working on virtual strategies to ensure I get to do what I signed up for: to share the passion! I love connecting with other public works professionals and associations from across our beautiful country to advocate for the members of CPWA. Thank you to the past president, Chris Hamel from the Ontario Chapter, for your continued support as I learn what to do with the gavel you passed on to me.

Our Board can’t be the only voices across our nation, so please join us with your voice. “It only takes one voice, at the right pitch, to start an avalanche.” – Dianna Hardy

Stay healthy, stay connected, and stay informed.

Patty Podoborzny, C.E.T., CLGM, PWSIII
President
Canadian Public Works Association

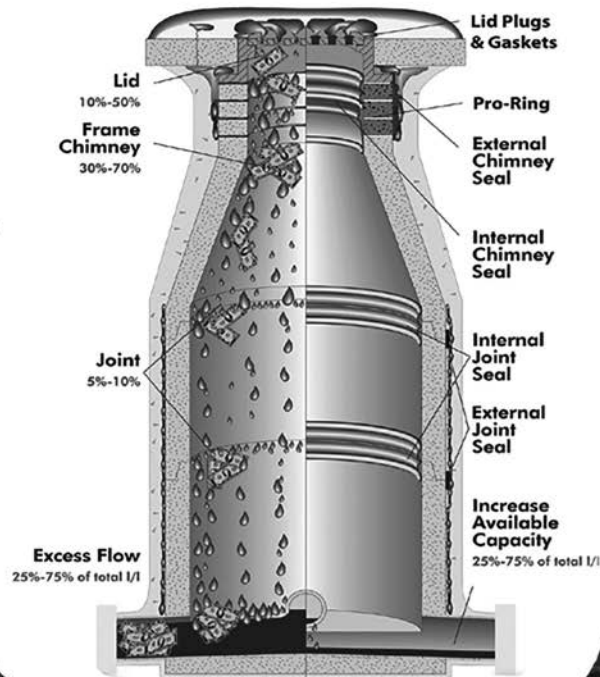
Membership

All members of a CPWA Chapter are members of the American Public Works Association (APWA). As a member, you share common goals, challenges, and solutions with other public works professionals throughout North America. To find out more on member benefits, go to www.apwa.net or www.cpwa.net.

HOW MUCH IS I&I IN YOUR MANHOLE COSTING YOU?

► Problems

- Leaking Lid
- Leaking Frame & Chimney
- Structure loss in Chimney
- Leaking Barrel Joints
- Leaking Pipe Joints



► Solutions

- Internal Chimney Seals
- External Chimney Seals
- PRO-RING
- Internal Joint Seals
- External Joint Wrap
- HydraTite Pipe Joint Seals
- Lid Plugs
- Inflow dishes
- Lid gaskets



infraStruct
PRODUCTS AND SERVICES

11571 - 149 Street
Edmonton, AB T5M 1W9
800-461-0006
www.infrastruct.ca

 **Cretex**
Specialty Products
www.cretexseals.com

OUR TECHNOLOGY IS BASED ON SOUND SCIENCE

Inspect More, Clean Better

Active Acoustics screen for blockage with no flow contact

MILLIONS OF FEET INSPECTED

- Save time, water, AND money
- Screen 2+ miles per day
- EPA validated
- Highly portable and easy to operate



SL-RAT



InfoSense, Inc.
Innovating Acoustic Inspection Technology
877-747-3245

sales@infosense.com • www.infosense.com

Smart. Choice.



Geogrids used in Road design to improve subgrade and reinforce base gravels



ArmorFlex mats provide flexible, hydraulically stable protection in high-flow, high-scour applications



Bituminous Geomembrane (BGM)
Exclusive Distributor - TERANAP



Stormwater Chambers are used for underground infiltration - CULTEC

Roads & Rail
Containment
MSE Walls & Slopes
Water Management
Erosion & Sediment Control

NILEX
CIVIL ENVIRONMENTAL GROUP
1.800.667.4811
NILEX.COM



A Message from the Public Works Association of British Columbia

As I reflect on the year ahead for the Public Works Association of British Columbia (PWABC) in 2021, I can't help but feel somewhat disappointed and empty as a result of the worldwide COVID-19 pandemic that has affected every aspect of our personal and professional lives. COVID has, so far, required the PWABC to cancel the following:

- 2020's 3rd annual joint conference with the BC Municipal Safety Association in Richmond;
- 2021's 4th annual joint conference in Whistler; and
- Numerous regional PWABC training opportunities and events, such as Women in Public Works, the Public Work Supervisor series, and our Winter Maintenance Operator and Supervisor courses that were scheduled to be hosted throughout the province in 2020 and 2021.

As the association's main revenue generators, as well as mitigating our future financial liabilities, the cancellation of these events were decisions that our Board and executive did not take lightly, but they were unavoidable decisions. With respect to our annual joint conference with the BC Municipal Safety Association, the PWABC thanks your association for two great years and we look forward to the possibility of partnering with you again in the future.

Despite this initial disappointment and emptiness though, it is amazing to have heard (and to continue to hear) of public works stories from across our association that continue to serve their communities with the highest level of dedication and professionalism. It makes me very proud to know, see, and hear of all of the great things

that our public works professionals in the province of British Columbia have done, and continue to do, to adapt to the ever evolving requirements and challenges associated with the pandemic. I know first hand how challenging these situations can be, but through it all our teams are doing what we've always done in the delivery of essential services to our communities. Thank you and keep up the amazing work!

For 2021, the PWABC will be looking to adapt the way that we have typically done things. By now, we all realize how important the virtual platform has become, and our association will be doing everything in our voluntary capacity to bring the membership meaningful virtual opportunities. So, please do not hesitate to reach out if you have the skill set and desire to partner and support the PWABC on these opportunities.

Despite the likelihood of no in-person events for 2021, the PWABC urges you and your organization to continue to support the association with your membership and participation of the virtual events that we hope to roll out in the coming year. Your support will help keep the PWABC in a financial position to be prepared for the post-COVID-19 world where we eagerly look forward returning to in-person formats for our future training and conference events.

With the support of our association's Board and executive, I look forward to the challenge of successfully leading our Chapter through 2021. Thanks again to all PWABC members as well as the communities and organizations that support us all!

Chris Anderson, ASCT, CPWP-M

President

Public Works Association of British Columbia

Board of Directors & Staff

PRESIDENT

Chris Anderson

City of West Kelowna, BC

PRESIDENT-ELECT

Meryl Ditchburn

Heinz

City of Nanaimo, BC

PAST PRESIDENT

Scott Lamont

City of Rossland, BC

TREASURER

Dave Lundberg

Small Pause Coaching

& Consulting

Steveston, BC

SECRETARY

Taryn Scollard

City of Vancouver, BC

DIRECTORS

Brian Carter

City of Burnaby, BC

Pat Miller

Retired

Matt Brown

City of Surrey, BC

Alexander

Christensen, WSP

Kelowna, BC

Dave Best

City of Penticton, BC

Larry Ford

City of Richmond, BC

Michelle Heinz

City of Victoria, BC

CONTACT

executivedirector@

pwabc.ca

You can learn more about the Public Works Association of British Columbia on their website: www.pwabc.ca



**PUT YOUR
FOOT DOWN.**

**DEMAND
DIESELEX GOLD.**

Dieselelex[®] Gold

Power ♦ Efficiency ♦ Protection

Dieselelex Gold is engineered to increase the fuel economy and engine efficiency of your truck. Because when you depend on putting miles behind you, you expect to find quality diesel ahead.

Find Dieselelex Gold at 55+ UFA Cardlocks.

UFA.com/DieselelexGold

GET IT.

UFA

DONE.

© 2020 UFA Co-operative Ltd. All rights reserved. 13678



A Message from the Alberta Public Works Association

Hello everyone and Happy New Year! What a year 2020 was. It wasn't enough that we had a hard winter last season, but then COVID-19 changed our lives forever, hockey got put on the shelf, summer was absent of the big BBQs and get togethers, and then we had snow on October 16 and additional restrictions for the COVID-19 pandemic were implemented in November. It has been a difficult year for us all.

Personally, 2020 was not all bad, as my wife Suzanne and I welcomed two little granddaughters, Peyton May and Georgia Kate, into our family.

Our town, as well as most municipalities, worked late into the fall trying to wrap up a lot of projects, and now we will all be out there sweeping, plowing, and sanding. Public works continues to be the one constant during this period of uncertainty. We will be there to ensure our residents and visitors have safe sidewalks, roadways, facilities, and utilities during the winter season.

Throughout 2020, the Alberta Chapter was busy planning for the 2021 Conference, Trade Show, and Equipment Rodeo that is planned for June 14-17, 2021, in Red Deer. We also went ahead with PWS Institutes with Level I classes in Bruderheim, October 19-22, 2020, and Level III in Grande Prairie early in 2021. The Core Skills and Public Works Overview course will be held February 1-2, 2021. Please go to our website at publicworks.ca for time and dates and to register for these training opportunities. Some of our training courses can and will be held in the virtual format.

Our day to day lives are beginning to be conducted more and more online, and as such, the American Public Works Association (APWA) has moved a lot of their information and training to a virtual setting,

so now is a perfect time to either renew or purchase an APWA membership and take advantage of everything that comes along with it. As a member you will be able to share common goals, challenges, and solutions with other public works professionals throughout North America. You also will be able to save money on the best education and training programs in public works, covering all disciplines and management topics with the ability to receive CEUs. Another great advantage of a membership is free access to the members' library, which is an online collection of resources and educational programs. Membership will also provide savings on registration to PWX, Snow Conference, and many of the Alberta Chapter events and training opportunities.

If you are a public works supervisor and would like to be formally recognized by your peers and employers, please go to www.publicworks.ca and register for the APWA PWS certification. Depending on your education credentials and your years of experience you might be able to receive a Level I, II, or III designation. The APWA PWS certification is to assist supervisors in defining career paths, to award recognition to those who have demonstrated a high level of competence and ethical fitness as a supervisor, and to improve the performance of a supervisor by encouraging participation in a continuing recognized program.

Lastly, we all know and understand that challenges are going to continue to arise in both our professional and personal lives for quite some time, so please be safe and take precautions both at home and at work during those long cold days and nights as you continue to make a difference in our world.

Garry Webster
President
APWA, Alberta Chapter

Board of Directors & Staff

PRESIDENT

Garry Webster
Town of Stony Plain, AB

DIRECTOR, IDEA GROUPS

Dean Berreclough
Town of Killam, AB

PRESIDENT-ELECT

Mike Haanen
City of Fort Saskatchewan, AB

DIRECTOR, OUTREACH

Greg Zirk
Town of Stony Plain, AB

PAST PRESIDENT / COUNCIL OF CHAPTERS DELEGATE

Peter McDowell
Town of Okotoks, AB

DIRECTOR, SPECIAL EVENTS

Joe Guido
City of Edmonton, AB

CPWA DIRECTOR / CPWA PRESIDENT

Patty Podoborzny
Town of Bruderheim, AB

DIRECTOR, SUSTAINABILITY (TREASURER)

Mike Stasiuk
City of Fort Saskatchewan, AB

DIRECTOR, ALLIED MEMBERS

Chris Dechkoff
ACP Applied Products, AB

EXECUTIVE DIRECTOR

Jeannette Austin
403-586-4830
admin@publicworks.ca

DIRECTOR, EMERGING LEADERS

Brittany Wolbeck
City of Camrose, AB

The Alberta Chapter was founded in 1979 to enhance the services of the APWA to the Alberta public works community and to improve the quality of public works products and services to Canadian citizens.

Cooperative Procurement **CULVERTS PROGRAM** Bridging quality and affordability.

In partnership with:



Get high-quality, practical solutions for your municipality – completely trade-compliant and at preferred pricing!

Municipal associations across Canada have partnered together to tender on your behalf a full-service culvert offering. Boasting a wide range of product solutions all at reduced prices, the program is a 'one-stop shop' for municipalities of all sizes and situations.



To learn more, contact your provincial association's client relations manager listed:

British Columbia

Kim Thiessen
250.215.1818

Southern Alberta

Jerad Uytterhagen
403.620.1155

Northern Alberta

Ryan Yavis
780.720.5145

Saskatchewan & Manitoba

Ainsley Murdock
204.249.0203

ULINE

SHIPPING SUPPLY SPECIALISTS

**STOCK YOUR
SHELVES**



ORDER BY 6 PM FOR
SAME DAY SHIPPING

1-800-295-5510
uline.ca

PetroBarrierTM Systems Inc.

protect | preserve | purify

SAVE OUR OCEANS ONE DROP AT A TIME!

We offer:

- ✓ Multiple filtration systems
- ✓ Solutions to treat dirty water
- ✓ Consulting Services

Our systems remove:

- ✓ Hydrocarbon oils
- ✓ Heavy metals
- ✓ PCBs
- ✓ Acids

PetroBarrierTM

www.petrobarrier.com | info@petrobarrier.com



A Message from the Saskatchewan Public Works Association

As you can see, the SPWA is endeavouring to bring our members and others in the public works profession greater value in educational and networking opportunities. We will also continue to promote professionalism in the public works field, advocate the essential role that public works plays in the quality of life, and promote it as a career choice for the work force of the future.

As I write this message and look out the window, I see more snow falling in Saskatoon. After an almost unprecedented amount of snow received over one weekend in November, now there is slightly more to clear. Public works roadways crews have been working overtime, contractors have been called in, and it has been a struggle to get to water main breaks, collect garbage, and for anyone else to navigate the streets. I am proud to be a part of a team that works tirelessly to get the community fully operational again. It takes a monumental effort to clean up after nearly half a winter's snow falls in a weekend, so thank you to all the public works professionals in every community. Once again public works is at the center of the response to this emergency.

SPWA hosted our first virtual workshop the mornings of September 16 and 17. The topic was *Standard Operating Procedures: Contingency Plans and Emergency Planning*, presented by Dawn Dierker of ATAP. There was plenty of good information provided, materials emailed out to registrants, and great discussions taking place. This CEU-approved workshop was important for the 38 operators attending to maintain their certification.

We are now converting our 62nd Annual Conference from the in-person event that was to be held in Saskatoon into a virtual event. The theme for the conference, *Managing your Municipality*, is very pertinent these days as communities have had to be creative with working from home, redeploying staff, and

managing safety measures, along with all the changes that were happening in the home lives of the staff. The conference will still host a 0.6 CEU session, keynote speaker, and sessions on varying topics, along with our tradeshow. We are reducing the time online each day and so have added an extra day. The conference is to be held February 23-26, 2021.

We are very pleased to now be able to offer online registration for our events. You can visit our website, click on the upcoming event, and it will link you to the registration page. If you are not an SPWA member you can still use this service although it will require an extra step or two. Watch your email for more information on our events. (**Remember, the discounted rate members receive at our combined yearly events pays for the annual cost of membership with SPWA.*)

As you can see, the SPWA is endeavouring to bring our members and others in the public works profession greater value in educational and networking opportunities. We will also continue to promote professionalism in the public works field, advocate the essential role that public works plays in the quality of life, and promote it as a career choice for the work force of the future.

You can visit our Chapter website at <http://saskatchewan.cpwa.net>, or contact our Chapter Administrator, for more information and details about our upcoming SPWA events or how to become an SPWA member.

Dale Petrun

President

Saskatchewan Public Works Association

Board of Directors

**PRESIDENT /
APWA COUNCIL
OF CHAPTERS
REPRESENTATIVE**
Dale Petrun
Saskatoon, SK

Andrew Fahlgren
Melville, SK

Neeraj Saroj
Regina, SK

PRESIDENT-ELECT
Staci Dobrescu
Moose Jaw, SK

Eric Quail
Saskatoon, SK

**PAST PRESIDENT /
CPWA BOD
REPRESENTATIVE**
Andrew Stevenson
Saskatoon, SK

**DIRECTOR – SMALL
TOWN (<3000)**
Dennis Hunt
Saltcoats, SK

TREASURER
Stewart Schafer
North Battleford, SK

**DIRECTOR –
RM (RURAL
MUNICIPALITIES)**
Derek Hradecki
Emeral Park, SK

**CHAPTER
ADMINISTRATOR**
Trina Miller
Saskatoon, SK

**SUPPLIER
REPRESENTATIVE**
Duncan Sutherland
Stoughton, SK

DIRECTORS
George Jakeman
Regina, SK

The Saskatchewan Chapter strives to promote professionalism in the public works field and provide a network through which members can share and receive useful information.



Board of Directors

PRESIDENT
Chad Buhlin

PRESIDENT-ELECT
VACANT

PAST PRESIDENT
Jean-Luc Lambert, P.Eng.

TREASURER
Bonnie Konzelman, P.Eng.

SECRETARY
Craig Rowbotham, P.Eng.

APWA COUNCIL OF CHAPTERS DELEGATE
Justin Wiebe, P.Eng.

CPWA DIRECTOR
Steve Blayney, GSC

DIRECTORS
Bonnie Konzelman, P.Eng.
Camilo Marquez, P.Eng.
Mike Neill, CET
Kas Zurek, P.Eng.
Randy Pitz
Bruce McPhail
Brian Wiebe

Did you know that Manitoba is the longest serving of the Canadian Chapters and has been providing a forum for practitioners since 1955! We actively support our membership, the public and policy makers to collaborate and maintain healthy communities throughout the province.

A Message from the Manitoba Public Works Association

It has been great to see the hard work and determination of public works staff all over the country who are working hard, even in the face of this pandemic, to keep our towns and cities running smoothly and without interruption.

As 2020 came to an end, so did my tenure as the Chapter president. It has been an enlightening experience being able to be so deeply involved with the operations of the Manitoba Chapter and I have learned a lot. This year has brought on struggles that none of us could have predicted, and working through these problems has only made us stronger.

The Manitoba Chapter is working hard right now to prepare for the 2021 Western Canadian Snow Conference, which is currently scheduled for the end of October 2021. We are hopeful that restrictions will ease and allow us to get together for this event so we may participate in some great sessions and be able to see and work with some great vendors. Please keep an eye out over the months ahead for updates and more information.

Also pending the restrictions, come spring we are working on another spring fling event. As we are all finding different ways to stay connected through these times, we seem to see more and more virtual events happening. It is vitally important for our sector to keep communicating even through hard times like these. Zoom fatigue

is a reality now, but being able to share ideas and to learn from others is a critical aspect of improving your abilities and it allows us to be better at what we do day to day.

It has been great to see the hard work and determination of public works staff all over the country who are working hard, even in the face of this pandemic, to keep our towns and cities running smoothly and without interruption. Our lives are all interrupted enough right now and having to worry about the water coming out of your tap, the garbage being collected, or our streets being cleared of snow is something we can help ease the stress of. The drive to get what needs to be done and done right is what makes us all proud to be public works employees.

I would like to thank my Board of Directors here in Manitoba for putting up with my crazy ideas and working with me to better the Chapter. I am excited to see what comes next for this group. Thank you for allowing me the opportunity to be part of this excellent organization.

Chad Buhlin

President
Manitoba Public Works Association



ALBERTA
MUNICIPAL
SUPERVISORS
ASSOCIATION

A Message from the Alberta Municipal Supervisors Association

Board of Directors & Staff

PRESIDENT

Shaune Kovitch
Special Areas Board

Erik Hansen

Clearwater County

PAST PRESIDENT

Joe Duplessie
Lac Ste Anne County

DIRECTORS, ZONE 3

Lynden Fischer
Brazeau County

VICE PRESIDENT

Travis Wierenga
County of Barrhead

Brian Anderson
County of Wetaskiwin

SECRETARY

Zach Mazure
Camrose County

DIRECTORS, ZONE 4

Jim Alexy
Birch Hills County

TREASURER

Brandon Maier
Lacombe County

Leonard Van Oort
County of Northern
Lights

DIRECTORS, ZONE 5

Darby Dietz
Beaver County

DIRECTORS, ZONE 1

Craig Pittman
MD of Taber

Miles Lowe
Lamont County

EXECUTIVE DIRECTOR

Christine Heggart
403-845-4444
cheggart@amsapw.ca

DIRECTORS, ZONE 2

Rick Green
County of Stettler

At the time of writing this “Message from the President,” AMSA plans to host a virtual AGM in March, along with a two-hour/two-day legislation and leadership focused virtual convention. Please stay tuned for more details in the new year.

As we kick off another new year, we can only hope that 2021 brings stability and normalcy back to our communities. COVID-19 has impacted each of our lives and municipalities in a different manner and from an AMSA perspective, has impacted the ability of our membership to meet in person for over a year now. I know that I personally miss the opportunity to gather among my peers to discuss best practices and learn from each other.

To address the challenges of 2020, AMSA’s executive members met in November to discuss AMSA’s Strategic Plan for 2021-2024 and decided how to proceed into 2021 convention season. At the time of writing this “Message from the President,” AMSA plans to host a virtual AGM in March, along with a two-hour/two-day legislation and leadership focused

virtual convention. Please stay tuned for more details in the new year.

As an executive, we are also looking at innovative ways to continue to engage the AMSA membership and to provide value for our members. One of AMSA’s strategic planning goals is to formalize the regional zone meetings and set schedules to meet as a smaller group at least once a year. Once COVID-19 restrictions on gathering are lifted, with the assistance of the Rural Municipalities of Alberta (RMA), we intend to roll out a plan for regional zone meetings.

Finally, I cannot forget to thank our many generous sponsors, including the RMA for their continued support in 2020.

Stay healthy and all the best to each of you,

Shaune Kovitch

President

Alberta Municipal Supervisors Association

AMSA’s mission is to unite our members towards individual development, improved service to their municipality and the public and to improve the members’ knowledge related to their role in public works operations. Our association provides a forum for exchange, both online and in person at conventions, and the development of innovative ideas, as well as offers various professional development opportunities.



AMSA Celebrated 40 Years in 2020!!

1980 to 2020

**We hope to celebrate this major milestone in 2021. Stay tuned for details!*

Change is Inevitable, Transition is Intentional

From Change to Transition - How to Avoid a Transition Crisis

By James Brayshaw,
Fire Captain; and Angellah
Brayshaw, Saskatchewan
Mental Health Training
& Support Teams

We all know change is powerful and is somewhat of an unrelenting renewable resource with a force all its own. The ability to disrupt and set everyone on edge is part of this tenacious creature that can truly be the source of distress and disruption. Yet, it is often the case that change, either good or bad, can lead to a transition crisis for individuals, companies, and society.

What is this delayed response to change that may bring turbulence to our future? Let us outline some of the features of transition crisis to help you and your team avoid it going forward.

First of all, it is important to see that *change* is external while *transition* is internal. The response to change is an automated response process very similar to the fight, flight, or freeze survival mechanism. In nature, if animals don't transition successfully, they will not survive. In humans, if we don't transition intentionally, we may experience crisis.

Difficulties and distress may be experienced six to 12 months after the change event occurred. Our human neurophysiology works to adapt to change but this process takes time. To be successful with our futures, we must see the difference between change and transition.

Some of the unwelcome signs and symptoms of transition crisis can be:

- Loss of sleep;
- Fatigue;



- GI responses;
- Accidents, risk increases;
- Strains on work performance;
- Quitting jobs;
- Sick leave;
- Decreased immune function;
- Dream disruptions;
- Errors of judgement;
- Indiscretions or poor strategic decisions;
- Depressive symptoms;
- Apathy;
- Moments of "WTF were you thinking";
- Strains on relationships;
- An urge to escape the situation;
- Conflict; and
- Discipline issues.

Take one of the simplest of changes in the human journey: having a baby. If you have ever become a new parent, you are exposed to a massive change. The rhythm of life, which is a huge factor in maintaining homeostasis, is tossed out and a foreign rhythm takes over. Our bodies are not fans of rhythm shifts. Managing all the pieces of

the new experience may have adverse effects in six to 12 months.

The human brain toils to catch up to the change, to fully adapt. This transition crisis is not related to the most present events of the new experience you may be embroiled in; rather, you are now tilted off your stable axis because of the change that happened many months ago. You begin to experience distress in various ways. You start to have less patience, feel unstable, experience relationship conflicts, make errors in judgment, and have a loss of strategic thinking. And now, as a result of a change that happened many months ago, a transition crisis is occurring.

One of the keys to a successful transition when change occurs is to become an intentional and thoughtful participant in three simple stages.

1. Begin with the ending: This first stage is intended to help the experiencer begin their successful transition. This involves a thoughtful realization that something has ended. In our present global state of

change, this would be accepting that life as we knew it pre-pandemic has ended. That is a loss to be grieved but is also a reality. Recognizing what is lost and accepting the new reality is essential to move to the next phase.

2. Neutral zone: In the neutral zone phase, the experiencer of change is slowly adjusting. Transition to many changes cannot happen all at once so this neutral zone is a period of recognizing change has happened and thoughtfully moving through the uneasiness of being a subject of change. While the brain and body work to recalibrate to the new reality, it is

helpful to ask oneself the question: “How am I adapting?” This simple strategy helps to prompt oneself to be intentional along the move to successful transition where we experience the third phase.

3. New beginnings: Lastly, the experiencer of change, who has travelled thoughtfully through the neutral zone, is now adapted to the new beginnings. The inevitable change has done what it was intended to do and the experiencer has been wise about transition management. Resilience has been restored and the body and brain are in a better place. When we see the difference between

change and intentional transition, we are better positioned to avoid a transition crisis and enjoy success through the inevitable change that will come next week, next month, or next year. ▮

James Brayshaw is a Career Fire Captain in Saskatoon and chairs the Critical Incident Stress Management Team for his Department. He works with Angellah Brayshaw in Saskatchewan Mental Health Training & Support Teams, offering Mental Health Coaching and delivering Workshops sanctioned by the Mental Health Commission of Canada as well as the Canadian Mental Health Association.

BROCKWHITE⁺

CONSTRUCTION MATERIALS

Flexamat® is a vegetated concrete block mat utilized for stabilizing slopes, channels, low water crossings, inlet/outlet protection, and shorelines. It consists of 6.5" square concrete blocks locked together and embedded into a high strength geogrid. Learn more at ca.brockwhite.com/flexamat



LOCATIONS ACROSS WESTERN CANADA

BROCKWHITE.CA



Denso Anti-Corrosion & Sealing Systems
Unmatched Quality and Performance



If it doesn't say

Denso®

on the outside, then it's not

Denso®

on the inside.



CSA Z245.30 compliant

Denso North America Inc.
90 Ironside Crescent, Unit 12
Toronto, Ontario M1X 1M3
Tel: 416-291-3435
Fax: 416-291-0898
sales@densona-ca.com
www.densona.com



Upcoming Events

The Saskatchewan Chapter's SPWA 62nd Annual Conference & PWville
Managing Your Municipality
Includes a 0.6 CEU session
 February 23-26, 2021
 VIRTUAL

National Public Works Week 2021
 May 16-22, 2021

The Alberta Chapter's Conference, Trade Show, and Equipment Rodeo
 June 14-17, 2021
 Red Deer, Alberta

The Manitoba Chapter Golf Tournament
 June 17, 2021
 Bridges Golf Course

PWX 2021
 August 29 to September 1, 2021
 St. Louis, Missouri

The 3rd Annual PWABC & BCMSA Joint Annual Conference & Trade Show
 September 19-22, 2021
 Richmond, British Columbia

Western Canadian Snow Conference
 October 20-22, 2021
 Winnipeg, Manitoba

PWX @ Home

Get ready to experience APWA's best in education and credentialing, because they're bringing you an all-new learning experience each month with PWX@Home! PWX@Home will feature over a hundred online education sessions, exhibits, and networking opportunities presented, by topic, to you throughout 2020-2021.
www.apwa.net

**Note, all in-person events are subject to COVID-19-related gathering guidelines in individual locations.*



Introducing Okotoks' Street Sweepers

The Okotoks' street sweepers have been officially given names! Naming the vehicles was a community affair and came after Peter McDowell and his team decided to host a contest where town residents sent in potential options through #NPWWOkotoks on social media. Sweeping Beauty and Lightning McClean were officially deployed onto the streets in August to do a tidy up in preparation for the fall season!

Earlier this year, Peter McDowell, Past President of the Alberta Public Works Association and current Transportation

Supervisor for the Town of Okotoks, was listening to the local radio station Eagle 100.9 when the show host Logan Coutts mentioned that it would be "cool" if the street sweepers were named.

"We jumped on the idea and went with it, and this is the final outcome," said McDowell. "We had a contest, some great entries, and out of those we picked the two that we thought were the most fitting for the machines."

Of course, the name options that were originally put forward were all pun-based. The "punnier" the better! Some options included Bruce Springclean, Sweepy



McSweepface, Meryl Sweep, and Sweep Caroline. The team ended up choosing Lightning McClean and Sweeping Beauty. The newly named street sweepers were deployed in full force this past fall when leaves started to clog up roads, curbs, and gutters.

Both machines, which have their names proudly displayed, are experienced on the roads of Okotoks: Lightning McClean has been running for 10 years!

Street sweepers are slow-moving vehicles. Remember, if you find yourself driving behind one, please give us our space to work and they will be out of your way as soon as they can. Watch for the flashing warning lights to let you know if and when it is safe to go around!



Receive *The Roadrunner*!

If you already receive *The ROADRUNNER* but need to update your mailing details, email distribution@matrixgroupinc.net.

If you'd like to receive a hard copy of each issue in the mail, email editor@matrixgroupinc.net.

You must be a member in good standing of the Canadian Public Works Association, any of its Chapters, or the Alberta Municipal Supervisors Association.



Write for *The ROADRUNNER*

If you have an interesting story to tell that would be of interest to public works professionals in Western Canada, please reach out to ssavory@matrixgroupinc.net.

We are looking for HR Reports, Safety Reports, Investment Reports, Legal Briefs, Community Reports, and Tech Talks for our 2021 editions! *All articles are subject to approval.*

SHARE YOUR NEWS!

Has your public works department done something great? Interesting? Cool? Beneficial to the community? Outstanding? Awesome?

The ROADRUNNER would love to share your good news stories and recognize the men and women across Western Canada who help keep our communities running.

Please email editor@matrixgroupinc.net



Saskatchewan Public Works Association



Managing Your Municipality




SPWA 2021 Annual Conference & PWville

Hosted virtually February 23 - 26, 2021

Contact our administrator for more information:

Saskatchewan Public Works Association
P.O. Box 131
Saskatoon, SK S7K 3K4
1-306-232-9300
spwa@sasktel.net



 <p>Standard Operating Procedures, Contingency Plans, & Emergency Planning / Continuing Education Unit (0.6 CEU) Workshop for Saskatchewan Public Works Assoc.</p> <p>Dawn Dierker, B.Sc., CHSC Training Manager September 16-17, 2020</p>	<p>What do we ask ourselves?</p> <ul style="list-style-type: none"> • What can go wrong? • How likely is it? • What are the (adverse) consequences? • Monetary, social and environmental cost 	<p>Cycle of Emergency Preparedness</p> 
--	---	---



Benefits of Preventative Maintenance

The SPWA 2020 Fall Workshop

Public works doesn't stop because of a global pandemic. We pivot to new, innovative ways of delivering educational workshops. The Saskatchewan Public Works Association was excited to have 38 attendees, from over 30 Saskatchewan communities, attend our first live-online Standard Operating Procedures, Contingency Plans & Emergency Planning CEU Workshop by ATAP. The training educated participants to:

- Develop Standard Operating Procedures (SOPs) for routine operation and maintenance;
- Know the importance of developing a preventative maintenance schedule and documentation for succession planning;
- Highlight the differences between SOPs, Contingency Plans and Emergency Planning, with templates for basic plans; and
- Outline Contingency Planning for critical events such as electrical outages, process upsets and source water upsets in detail.

Attendees enjoyed the new format and commented on the very informative workshop.

 <p>sameng inc. better water better world</p> 	 <p>Water Resources Engineering Environmental Services Land Development Municipal Infrastructure Servicing of Major Industrial Projects</p> <p>(780) 482-2557 www.sameng.com</p>
---	--

<p>The world's first flexible, patented Carbide Grit Camera Crawler Wheel</p>  <p>TRUGRIT TRACTION INC. CAMERA CRAWLER WHEELS REINVENTED</p>	<p>We also have:</p> <ul style="list-style-type: none"> • Solid steel crawler wheels • Gritted crawler tracks • Pigtailed, motor cables & more • Fitting all major camera crawler brands <p>TruGritTraction.com 407-900-1091</p>
---	--

 <p>Insituform an AEGION company</p> <p>Brett Knievel, CET Business Development Manager</p>	<p>Insituform Technologies® Limited Unit 4, 8009 - 57th Street SE Calgary, AB T2C 5K7 Tel.: 403.235.4769 Cell: 403.589.2469 Toll Free: 844.589.2469 Fax: 888.733.0398 bknievel@insituform.com</p> <p>www.insituform.com</p>
--	--

The Role of Supplementary Conditions for Standard Form Contracts

By Sonia Sahota and Marcela Ouatu, Civic Legal LLP

Standard form construction contracts are relied upon by owners, contractors, and consultants alike as a convenient and effective way of formalizing a contractual arrangement. As their name suggests, they are meant to standardize contracts. Such documents are developed by committees comprising various industry and interest groups. While these documents seek to offer advantages (such as fostering consistency in use, representing interests of all parties, increasing certainty, mitigating against disputes, and allocating project-related risks), the outcome is not always suited to all parties in all circumstances. The downside of such a “one size fits all” contracting approach often needs to be addressed early in the planning stage of a project, and one such technique is through the use of supplementary general conditions (SGCs). This article intends to provide guidance to municipal owners on the role and use of SGCs.

Use of supplementary conditions

SGCs are an effective tool to modify a standard contract. Their use allows standards to remain unaltered from their published form but permit the language of the standard to be amended when read together with the SGCs. However, they should be used only when necessary and their terms should be drafted with precision. Many provisions of a standard contract operate inter-dependently and a seemingly innocuous change to one may have substantive impact on another. Even such aspects as numbering format, syntax, and defined terms used in a standard should be consistently utilized in the SGCs to avoid interpretation issues.

The use of poorly drafted SGCs may have the same negative effect on contracting parties as the absence of much-needed SGCs. For example, SGCs that create imbalanced rights and obligations may cause the more favoured party to lose its goodwill, would-be vendors may refuse to bid, bids may include surcharges

to offset perceived risks, or contractual compliance may be made more difficult. A heavily modified standard that substantively disrupts the whole of the original standard contract may simply undermine any practical benefit of using a standard in the first place. In such cases, it may be better to utilize a stand-alone fresh contract.

If done correctly, SGCs can help to overcome shortcomings in a standard form contract, which can be particularly useful where standard provisions are more favourable to one party. Municipal owners are encouraged to supplement standard language that may simply be unworkable for a public organization, or where standard language may not be applicable to their operations. For example: the mandatory requirement for an owner to disclose financial arrangements may be neither necessary nor appropriate for a public organization¹;

where a local government mandates fair wage compliance, it should incorporate the contractor's submission of evidence of compliance within the progress and final payment provisions; municipal bylaws or policies may limit a local government's ability to provide the types of insurance and indemnity commitments typically found in standards; and short timelines may be unachievable for a large organization that has multiple levels of approval.

Municipal owners may also want to consider amending standards simply to reallocate risk to protect its interests, such as:

- Incorporating performance security, such as bonds, LOCs, holdbacks;
- Discharging prime contractor obligations;
- Expanding insurance coverage;
- Lengthening indemnification periods;
- Limiting waiver rights;
- Deferring to statutory limitation periods;



- Requiring confidentiality; and
- Limiting publicity.

Impact of the pandemic

The COVID-19 pandemic has further impacted and challenged the construction industry and created new cause for revisiting standards. In 2020, all parties to construction projects have had to consider, to varying degrees, the impact of delay, increased cost, supply interruption, and worksite safety.

Owners can draw on lessons learned in 2020 to address the pandemic-related cost and schedule risks in future contracts by using appropriate SGCs. For example, changes to the contract price should not be available where contractors have priced for known impacts of current health orders. On the other hand, the parties may want to share cost and schedule risks associated with any new health orders issued during the progress of the work rather than deferring to standard clauses. For example, “change of law” provisions

in existing standard contracts allow the contractor to bring a claim for a change in the contract price.² Owners may also want to add rights to temporarily suspend work, a right that is typically reserved for contractors.³

Important timing considerations

The time to amend standard contracts is as important as the amendments themselves. For tendered work, where Contract A/Contract B operates,⁴ the appropriate time for an owner to disclose the use of SGCs is prior to bid closing. If such disclosure is made after bid closing, or after bid selection, the owner may be subject to a breach of contract claim for failing to award the contract as tendered. In other words, all desired SGCs should be prepared in advance so that they are ready for inclusion into the tender package.

If the procurement does not fall under a Contract A/Contract B model, owners will likely have more latitude to amend the standard contract being negotiated at any point in the negotiation process up until the parties reach an agreement and a contract is formalized. ▀

This article is intended for the general information of organizations in British Columbia. If your organization has specific issues or concerns relating to the matters discussed in this article, please consult a legal advisor.

Sonia Sabota is a solicitor and current managing partner, and Marcela Ouatu is an associate, with Civic Legal LLP, a British Columbia law firm with expertise in municipal law, land development, construction, procurement, and complicated contract matters. Visit www.civiclegal.ca for contact and additional information.

References

1. See GC 5.1 of CCDC 2 Stipulated Price Contract, 2008.
2. See GC 10.2.7 and GC 6.6 of CCDC 2 Stipulated Price Contract, 2008.
3. See GC 7.2 of CCDC 2 Stipulated Price Contract, 2008.
4. This is where a contract arises between the owner and each bidder upon the submission of a compliant tender as established in *R. v Ron Engineering & Construction (Eastern) Ltd.*, 1981 CanLII 17 (SCC).



Civic Legal LLP

Procurement • Infrastructure • Construction
Litigation and Dispute Resolution • Local Government Law
Planning and Land Development • Municipal Corporations

*Small Firm.
Big Thinking.*

www.civiclegal.ca
Main 604 639 3639 | Email info@civiclegal.ca
710 - 900 West Hastings St. Vancouver, BC, V6C 1E5

Follow us @CivicLegal



W. R. MEADOWS
SEA TIGHT
www.wrmeadows.com

Experience Counts!
Tack Oil
Cold-Pour Crack Filler
Hot-Pour Crack Sealant
High Performance Cold-Patch
Concrete Curing Compounds
Asphalt Maintenance Equipment

Concrete Restoration Products
Water Proofing Membranes

Providing advanced building materials since 1926.

W. R. MEADOWS of WESTERN CANADA
21 Streambank Avenue
Sherwood Park, AB T8H 1N1
Phone: 780-400-1772

Authorized Distributors for:
Deery American
Marathon/Titan
Cascade Asphalt Sealer / Ennis Paint



Adopt Good Habits When Exiting Your Vehicle:

3 Use Three Points of Contact Every Time

premiums, time spent replacing and re-training staff, and overall lower morale. “The entire workplace suffers when someone is injured,” Ordeman says.

In 2019, WorkSafeBC had 51 time-loss claims related to workers’² entries or exits from their vehicles. Almost 70 per cent of these injuries were caused by falling or jumping from the vehicle. The vast majority (80 per cent) resulted in sprains and strains, while fractures and concussions accounted for another eight and 10 per cent, respectively. More than half of the injuries occurred during the winter³ due to cold, wet, and snow covered surfaces increasing the risk of injuries.

“Even the effectiveness of your shoes changes in winter. In summer heat, rubber soles are great, but in winter rubber hardens – increasing the risk of a fall,” says Ordeman.

Another common mistake is facing outwards when exiting the cab, while only loosely gripping one handhold.

“We had a worker who was only holding on using one hand and he started to slip. He grabbed a handle to save himself from falling, and thought he was okay. But after a couple days the pain in his shoulder was unbearable and he eventually ended up in surgery,” Ordeman says.

The solution? Consistent use of 3-point contact

Mitigating the risk is simple. Employers must instruct new drivers – and remind

By WorkSafeBC

Small actions can have big impacts for workers who drive on the job. Just ask Mark Ordeman, manager in the Consultation and Education Department at WorkSafeBC who specializes in transportation safety.

“You would be surprised how many injuries are caused through routine, seemingly harmless actions,” Ordeman says. “Getting in and out of your truck correctly, and with awareness of your surroundings, is a perfect example of something most workers don’t think about – but should.”

Jumping from the cab floor or the top step of parked trucks and flat decks is a common cause of injuries – as jumping from heights can create an impact force of

five to seven times a driver’s body weight. That means if a driver weighs 91 kg (200 lbs.) the impact force of jumping from the floor of the cab is 680 kg (1,500 lbs.).¹ Jumping from heights can seriously impact joints, and increases the risk of a lower back or lower limb injury.

Healing from a fall is time consuming and costly – for both employers and workers. Aside from the obvious lost wages, the longer someone is off work the more disconnected they become. “Being off work for a long period of time slows physical healing, and also has negative consequences for the worker’s mental health,” Ordeman says.

For employers, the costs associated with workplace injuries show up as increased



INNOVATIVE SUN ATTENUATION PRODUCTS

Aviation - Transportation - Military - Marine - Emergency Services

From the same company that introduced safe vision products to commercial and military aviation over 30 years ago



ELIMINATES DEADLY SUN GLARE!

Specifications and Details

- 3 axis lens adjustment for increased flexibility
- 2 tension control knobs for stability in off road or Heavy Duty applications
- Simple installation- hardware included – alternate mounting brackets available
- Lens attenuates 99% of UV light, 92% of visible light, and 70% of infrared light
- Exclusive Neutral Density Tint does not change exterior color perception
- 3 year warranty on all mechanical components
- Passes functionality test after undergoing Salt Spray Testing (ASTM B117- 96 hours)

WWW.ROSENSUNVISOR.COM

800.284.7677



experienced drivers – to use 3-point contact every time. This means keeping two hands and one foot – or two feet and one hand – on the equipment at all times. Using the correct 3-point contact, and carefully stepping down from the lower step, creates an impact force of only one to 1.5 times the driver's body weight – greatly reducing the risk of injury.

Getting out with something in your hand – like paper work or a coffee cup – can also result in injuries. Ordeman recommends leaving all items on the floor of the truck or trailer, and only picking them up once you're safely on the ground.

"It's so critical to maintain 3-point contact until you are completely and firmly on the ground. No exceptions, no excuses."

It takes some time and effort to employ the 3-point contact and ensure you've checked the ground. Ordeman says workers must make the extra effort, as the barriers to safety are often psychological. "Drivers are in a hurry, they've always done it that way, or they don't want to appear to be overly cautious. They think, 'I've been getting out of my truck for years this way, nothing has ever happened.' Well let me tell you, I've seen it enough times to know, your luck is going to run out." ■

WorkSafeBC is committed to creating a province free from workplace injury or illness, and to providing service driven by their core values of integrity, accountability, and innovation. By partnering with workers and employers, WorkSafeBC helps British Columbians come home from work safe every day.

References

1. Source: Washington State Department of Labor and Industries.
2. For workers in CU 732018 and 753004, with occupations in 7511, 7521, and 7522: Garbage, debris, industrial waste, or recyclable material removal; Local government and related operations; Transport truck drivers; Heavy equipment operators; Public works maintenance equipment operators and related workers
3. Between November and February 2019.

Safety is Inherent in Your Business, As Risk Management is in Mine

By Charlene Birdsall, CPA, CMA, CIM, CFP, National Bank Financial

Risk management can come in many forms, from wearing a hard hat and steel toed boots to wearing a seat belt and being law abiding, which is meant to protect us all. The COVID-19 pandemic has been an uncomfortable reminder that we are all vulnerable to risks that can have unprecedented effects. These effects are not only health wise, but with our day to day activities, our economy, and even changes to what is working in the stock market. Life as we knew it is different now.

As investors, we could try and avoid these terrible events, but for most of us, overly defensive tactics such as not participating in the markets does not help in achieving our goals over the longer term.

As the saying goes, perhaps, “the correct lesson to learn from surprises is that the world is surprising.” Equity markets inherently come with risks. In order to reap the potential returns offered by the markets, investors must be willing to accept that surprises can happen from time to time.

While risks in investing can never be eliminated, they can be managed. During buoyant market periods, the need for risk management may not be overly apparent. It can be easy to get caught up in the momentum and continuous market advances. Yet, risk management does not focus on



achieving the highest possible rates of return – it is about preserving your hard-earned money and support you in achieving the returns needed to accomplish your goals. Often, it's only when prices head downwards that the value of risk management becomes more obvious.

This means following various guidelines that have been established to control risk. We do this in various ways, such as maintaining a strategic asset allocation.

For example, a balanced portfolio holds approximately 40 per cent invested in fixed income securities for stability like bonds, debentures, bond mutual funds, preferred shares, and fixed income Exchange Traded Funds (ETF), and 60 per cent in equities for growth. We also rebalance portfolios back to target allocations (i.e. 40 per cent fixed income/60 per cent equities) when the portfolio asset allocation drifts too far. This would occur when the equities have



Take back our streets

Hot Mix repair in YOUR hands

Save time, save money
Re-Use your existing asphalt

\$25
a ton *

ASPHALT keep it in play

This is paving ready HOT MIX in just minutes!

* Estimate INCLUDES initial capital purchase

- potholes
- patching
- utility cuts
- paths
- sidewalks anywhere

1.866.754.0848

reclaimasphalt.com

increased in price. We would then take profits and reinvest appropriately for rebalancing the portfolio.

Another way to mitigate risk is to limit the size of any security by holding approximately three to five per cent of your portfolio in any one common stock. This way, if something goes wrong with the company, it does not affect the total portfolio too much. Another risk strategy is to diversify exposure across various sectors, like financials, technology, consumer discretionary consumer, consumer staples, real estate, telecommunication, utilities, industrials, materials, and energy.

Over the years, some sectors are high-flyers (like technology in 2020), and some sectors drop immensely (like energy or real estate in 2020). A portfolio should also be diversified geographically, as the Canadian market is only three per cent of the world market. To mitigate home bias risk, a portfolio should hold equities globally and internationally. With all this in mind, the most important part is paying particular attention to an investor's personal risk tolerance levels.

The COVID-19 pandemic has been an uncomfortable reminder that we are all vulnerable to risks that can have unprecedented effects.

As hard and fast as equity markets fell in late February, the rebound in April was equally stunning. As award-winning finance columnist Morgan Housel has said, "You will likely be more fearful when your investments are crashing and more greedy when they're surging than you anticipate. And most of us won't believe it until it happens." Sometimes emotions can pose risks to short-term decision-making that can affect longer-term well-being. Advisors help to take the emotion out of investing.

While everyone has an idea about how things will continue to unfold, nobody can be certain about the near-term path forward, especially in the aftermath of the United States election. Risk management practices are intended to help protect investors from the potential changes. During these challenging times, investing requires patience to understand that the markets will inevitably encounter surprises along the way, as well as the resolve to remember that portfolio guidelines have been put in place to support your journey to investment success. We, as advisors, can ensure your portfolio has the protection for downside risk with a systematic approach.

Stay safe.

Charlene Birdsall, CPA, CMA, CIM, CFP, is an Investment Advisor and Portfolio Manager for National Bank Financial. One of her main roles is to act as a risk manager, and she puts great care into preserving capital and growing it over the longer-term. You can reach Charlene at 204-925-2252, charlene.birdsall@nbc.ca.



Through hurricanes, fires and ice storms, resilient **RS Composite Poles** have the world's best track record for helping to keep the lights on.

RS
RSpoles.com



Chestermere Partners with Local Companies to Pilot Innovations in Wastewater Processing

By Megan Matthies, City of Chestermere

Most of us don't think twice about what happens when we flush the toilet, but for the folks at MAGNA Engineering and Eco-Growth Environmental Inc., they see it as a fountain of opportunity. Currently, most sewer treatment in North America is done through large scale, chemical-based processes, but these two companies are seeking to change that. By partnering with the City of Chestermere, they are piloting new, green approaches that will treat sewage through engineered wetlands and dehydration technology.

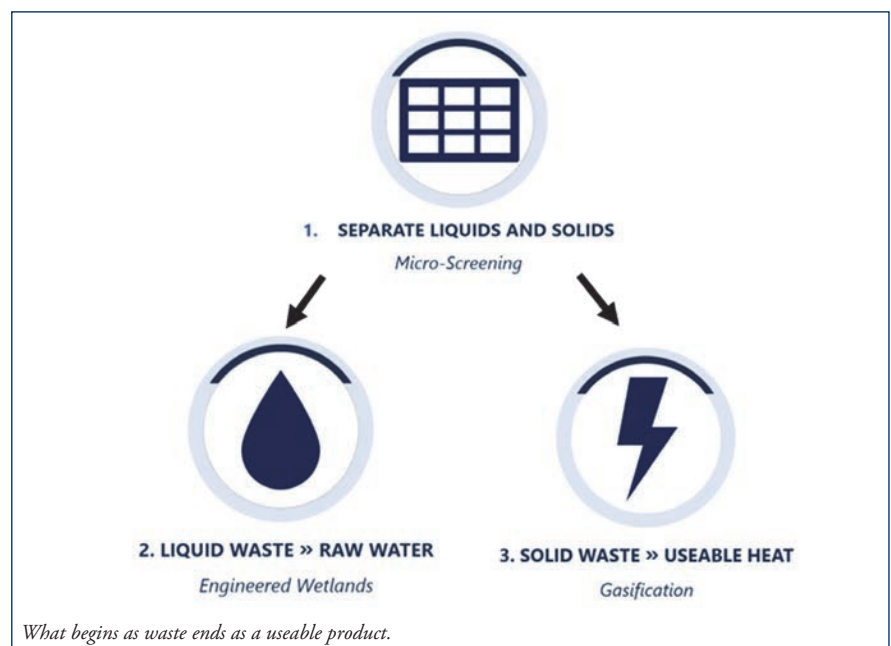
"In Chestermere, we are all about seeking to be and do amazing things," says Chestermere Mayor Marshall Chalmers. "For that reason, we are very happy to partner with MAGNA Engineering and Eco-Growth Environmental to find new, environmentally sustainable ways to handle municipal waste as well as support local business initiatives. We are hopeful that upon a successful pilot, we can help set new standards for environmental stewardship in municipalities across Canada."

The pilot program in Chestermere is located at the city's public works building. In the past, that building's sewage was flushed into a septic tank and then transported for treatment. With the new system, treatment is completed onsite. The first step is to separate liquids and solids through a micro-screening process. From here, the liquid component of the waste passes through a set of sub-surface wetlands that treat the liquid waste to raw water quality that can be safely released to the natural environment, or safely re-used as a raw water source for irrigation, process water, or other uses.

The solid waste is then dehydrated by Eco-Growth Environmental's Eco-Growth Organic Reactors that remove moisture, kill pathogens, and reduce odour. The dried biosolids can then be introduced as a heat source in the Eco-Boiler, which, at more than 1,400 degrees Fahrenheit, reduces the material to ash. It can be used as fertilizer or a component in road building material.



From left to right: Glen Smith, Eco-Growth; Mayor Marshall Chalmers; and Jennifer Massig, MAGNA Engineering.



Continued from page 27

"We all have energy coming out of our butts," says Glen Smith, Vice President/Director of Eco-Growth Environmental. "Our vision is to put that to use. Our innovative technology transforms raw, organic waste into biofuel so communities can get the most out of their waste."

Eco-Growth has already been converting organic food matter into biofuel and current clients include the Fairmont Lake Louise and the Canmore Grizzly Paw Brewing Company. By partnering with MAGNA, they can pilot one of two sites in Alberta to test the conversion of human biosolids. The pilot project in Chestermere was installed and tested last summer and was operational on September 10, 2020. Regular water samples will be collected and tested by a third party to determine the new system's efficiency and effectiveness.

"In Europe, small communities have been using engineered wetlands to treat wastewater since the 1920s, but the technology has not been widely adopted across North America. We are changing that trend," says Jennifer Massig, owner of MAGNA Engineering.

MAGNA has gained the support of Alberta Innovates, the National Research Council of Canada and the Canadian Environmental Technology Advancement Corporation for this pilot to ensure compliance and that all end products meet the regulatory requirements.

Massig says that, "Municipalities across Alberta are searching for a better wastewater treatment solution that keeps operation simple but results in high quality treated water. Better treatment means that our rivers and lake stay cleaner, which keeps our communities safe."

"The hope is that a successful pilot project of converting human waste into fuel would mean that we can start to change how the world deals with biosolids and that Alberta can be a leader in green technology," adds Smith. "That would mean reducing the burden on the tax base, finding sustainable ways to power and heat community facilities, reducing waste going to landfills and creating a new revenue source for the community."

Following the pilot, the system will be reviewed and refined for larger-scale projects and testing. ▀

Megan Matthies is the Communications Team Lead for the City of Chestermere. Contact her at 587-223-9062, or email her at mmatthies@chestermere.ca.

IN EVERY ISSUE • *Community Highlights*

Bridge-in-a-Box for the Municipal District of Smoky River, Alberta

The final result of the first ever "Bridge-in-a-Box" installed in Alberta.



By Armtec

A section of road regularly impacted by spring flooding in the Municipal District (MD) of Smoky River, Alberta, required a road grade elevation and new bridge crossing. Several options were investigated, and Armtec's Bridge-in-a-Box proved to be the most cost-effective option for this low volume road.

The challenge

Approximately 10 kilometers southwest of Falher, Alberta, spring flooding of a nearby stream had taken its toll on the surrounding roadway. In order to accommodate the

higher water levels, the elevation of the crossing was raised. The existing structure was at the end of its service life and unsuitable to reuse. The county required a replacement bridge solution. As a low volume road, budget constraints demanded an economical option to Alberta Transportation's Standard low volume bridge.

The solution

Several bridge designs were considered by the consultant, MPA Engineering Ltd., including Armtec's Bridge-in-a-Box: an engineered, prefabricated modular steel bridge system. Armtec supplied a preliminary design for the bridge structure and


Installers working on the new bridge.

A close up of the work in progress!

“In my 35 years of working on bridges, I was completely amazed at how quickly this ‘Bridge-in-a-Box’ was installed and how everything lined up to perfection. I would highly recommend this product to other M.D.s.”

– Greg Griffin, Griffin Contracting Ltd.

pricing, with the abutment and global design provided by MPA. The proposed 18.3 metre span and eight metre wide bridge supports highway live loads according to industry standards for low volume roads and the Canadian Highway Bridge Design Code (CHBDC). Armtec’s product support and partnership with the contractor led to a competitive installation price, further improving project economics for the owner.

Installation was scheduled for May 16, 2019. The three modular bridge pieces

arrived mid-morning, and by 1:00 p.m. in the afternoon the assembly of the superstructure was complete. The contractor was impressed at the ease of assembly.

The quick installation minimized inconvenience to local road users, and the open span design hydraulics reducing impact on the stream environment. A Thrie Beam guardrail system, suitable for low volume roads, completed the design. The bridge was officially open to the public on July 5, 2019 and was the first Bridge-in-a-Box installation in Alberta.

Find out how Bridge-in-a-Box can be used on your next project. Contact Armtec at either 1-800-565-1152 or visit www.armtec.com.

Owner: Municipal District of Smoky River No. 130

Contractor: Griffin Contracting Ltd.

Consultant: MPA Engineering Ltd.

Location: Falher, Alberta



Composite Utility Poles: A High-Performance Solution

By Galen Fecht, RS Technologies Inc.

There is now a high-performance composite alternative to those ubiquitous wood utility poles that line our streets and sidewalks. The humble utility pole, or telephone pole as it is commonly referred to, carries more than just telephone lines. In fact, any given utility pole will typically support a host of essential services like electricity (i.e. hydro power), voice, and data communication that are critical to empowering our daily lives.

Wood poles have been used for over 175 years and, in that time, they have done a decent job of supporting overhead line networks. But times are changing. The “old growth” wood poles of yesterday were stronger than they are now. First generation poles were treated with preservative chemicals like creosote to slow down rot, whereas today’s wood pole is likely to be a less dense, tree farm-sourced pole treated with less effective preservatives, with less strength, higher deflection, and requiring earlier replacement. This shift

TOP: A lightweight, modular composite pole being assembled for a wetland installation.

LEFT: A three-year old, structurally compromised wood pole riddled with woodpecker holes and displaying five instances of woodpecker hole remediation attempts (the plastic wrap on the pole).



in wood pole performance, coupled with the increasingly severe weather and environmental events that many of us are experiencing (think of wildfires and hurricanes), makes the case for pivoting to a more resilient and longer lasting type of utility pole.

Steel and concrete poles are alternative choices, but they have their respective drawbacks. Steel poles are subject to corrosion and are conductive, which presents challenges for utility line crews performing live line installation and maintenance work, and public safety risks when there is an insulator fault. Concrete poles are extremely heavy, which complicates logistics and installation procedures.

So, what else is available as an alternative to the status quo?

The answer is composite poles, which are light weight and deliver reliable, engineered performance. These tubular poles are also known as fibre-reinforced polymer (FRP) or fibreglass poles. Composite poles are comprised of structural fibres, from which the pole derives its strength, and a thermoset resin, which is the “glue” that transfers load stress to and between the fibres. Although composite poles have been in use since the 1960s, it is only within the last 10 years that they have been more widely adopted by electric utility and communication companies. While many factors are driving increased adoption, the rationale can be boiled down to the fact that composite poles solve many of the problems that afflict wood, steel and concrete poles.

What about cost? Are composite poles more expensive than wood poles? A 40 to 50 ft. composite pole commonly used in an overhead electric distribution line will typically be three to five times the cost of a comparable \$500 wood pole. But, as with many things we purchase in life, up front price isn't the entire story. Planning, engineering, labour, transportation, equipment, inspection, and maintenance costs for that \$500 wood pole typically add up to about \$9,500, bringing the total wood pole cost to \$10,000 or more.

Comparatively, the installation of a \$2,500 composite pole is about \$12,000, which represents only a 20 per cent premium on a total installed cost basis. For pole lengths beyond 50 ft., there is a negative correlation

between cost difference and pole length for wood poles and composite poles (i.e. as pole length increases, the cost difference reduces). As we will see, in many situations, this extra cost more than pays for itself.

One reason to use a composite pole instead of a wood pole is simply because wood poles do not last as long as they should. On average, wood poles are expected to last 40 years. However, there are some installations where a wood pole will last only a fraction of that time before it needs to be replaced. In North America, woodpeckers and pests like carpenter ants are responsible for hundreds of millions of dollars in damage to wood poles annually. In some instances, a wood pole can be structurally unfit to support its initial design load in only two or three days after its installation if it is aggressively targeted by woodpeckers. Should that happen to a wood pole, another \$10,000 investment is required to again replace the compromised wood pole.

Woodpeckers, ants, and other wildlife can't damage a composite pole. Replacing the woodpecker damaged wood pole with a composite pole eliminates the need to replace the pole for the next 80 years, which is the average service life of some composite poles. Appreciating that woodpeckers are territorial, a composite pole is a good investment to mitigate future damage and frequent replacement costs.

Premature rot is another situation when a wood pole might not last as long as it should. Because utility poles are embedded into the ground, accelerated wood rot often occurs in wetland areas or regions with high water tables. The use of a composite pole solves the rot problem and, in these applications, is also a superior choice from an environmental perspective. Composite poles also do not contain harmful preservative chemicals that ultimately leach into the ground from wood poles. This makes composite poles an excellent choice in areas where drinking water wells are located, or in sensitive wetland environments.

Speaking of wetlands, these areas typically need specialized equipment to install utility poles, such as tracked vehicles or mobile cranes, and often require swamp mats to facilitate site access. These are additional time and cost considerations that can easily double the installed cost of a pole. This example leads to another reason to use composite poles: where

the total installation cost is higher than average. The more remote or off-road a pole location is, the higher the cost to install and maintain that pole. Because composite poles are about 1/3 the weight of a comparable wood pole, lighter duty equipment can be used which typically results in a lower installed cost for a composite pole compared to a wood pole in remote locations.

Yet another application for high-performance composite poles is where reliability is paramount. High winds, ice storms and other natural events are becoming increasingly commonplace. During storms or fires there can be hundreds if not thousands of wood pole failures, which create power outages and delay restoration efforts. Engineered composite poles are designed to withstand extreme loads because they can absorb high amounts of elastic strain energy. Composite poles can flex and better withstand loads, such as a tree falling on a line. Often, it's the conductor cable or the hardware that attaches the conductor to the pole, that acts as the weak link. Once the load on the pole is released, composite poles return to their vertical orientation and a line crew can merely re-string the conductor to restore electrical service. This is in stark contrast to wood poles that can fail in a cascading manner, requiring large numbers of poles to be procured, transported, and installed, all in advance of the conductor cable being re-strung and service restored.

Moreover, composite poles are fire resistant and can remain standing during and after wildfire events. The bottom line is that composite poles reduce the chances of electrical service interruptions – and they shorten the length of the outages when they do indeed occur.

Currently, composite poles make up less than one per cent of poles installed in the grid, so there is no doubt that wood poles will continue to be used in the future. However, considering both the reliable everyday performance of composite poles as well as their proven performance in severe weather and fire events – considering composite poles for a wide range of applications makes a lot of sense. ▀

Galen Fecht is the Director, Technical Service and the ASCE FRP Committee Chair. For more information, contact RS at info@RSpoles.com.

New Solutions to Old Problems



Close-up of the Tough Cell technology.

By Marie Davis, MA, BSc., Polar Lights Media

Sourcing multiple solutions can be a daunting task, but what if there's a proven, engineered solution that actually works? Marcel Cherpin is putting the public works sector back in the driver's seat, with the materials and knowledge needed to keep the Town of Radville's infrastructure projects moving forward.

A good idea can come from anywhere

For as long as many can remember, Main Street in Radville, Saskatchewan has been a troubled road. Riddled with frost boils, ruts, and potholes – it was time for a practical, long-term solution.

"We dug out clay and gravel and replaced it with new material a few times, but the problem always came back," says Marcel Cherpin, Public Works Foreman for the Town of Radville. "I worked for the

town in the early 70s and 80s and came back 12 years ago. This is the first time I've seen promise for a long-term solution to this re-occurring problem."

In between working for the town, Cherpin's career consisted of property management, the gravel industry, and he was also in oilfield construction for decades. Accumulating around 50 years in general construction and public works experience, Cherpin has seen a few other solutions fail when it came to managing frost boils. His two main priorities in Radville are keeping the water clean and potable, and the streets fixed up.

Cherpin credits the Town's Chief Administrative Officer, Shauna Bourassa, on how they discovered Tough Cell, the technology that would address the Town's woes. "I wouldn't have known that this technology even existed if it wasn't for Shauna picking up on the effectiveness of this product from information we received about the technology," says Cherpin. "We hadn't heard about Tough Cell before, but it was interesting to learn about how this material helped the military in building airstrips over swamps, and with sand making up most of the road."

Project snapshot

The test section is 115 metres long, with an average of 10 metres in width, and is the busiest public road in town. The repair was completed on the west end of Main Street, nestled in between the school and the rink. The traffic loading consists of school buses, waste management trucks, and grain trucks. With an active school and a busy little rink, there is no shortage of light vehicle traffic. It has been through freeze and thaw cycles already this year, with no signs of the old problem coming back. The town is eager to see what the results are in the spring.

"We had to dig it up annually and it would boil-up and rut a year or two later, sometimes even in the same season," says Cherpin. "This was due to the sub-surface water, so we had thought of running weeping tile to deal with the water and rebuild it with new material. This meant tying into our existing sewer system, which we did not want to risk overloading. The Tough Cell solution seemed to make sense."

Tough Cell technology was introduced to the market by Paradox Access Solutions in 2009 to deliver state-of-the-art roadbuilding solutions that are eco-friendlier, more affordable, and easier to maintain than conventional options.

The technology reduces maintenance cycles and life-cycle costs. By applying Tough Cell geocells to the sub-base course of a paved road, the grade and profile of the road remain consistent due to the gravel being confined. This action creates an I-beam like effect, reducing the impact of wheel load pressure to the subgrade below.

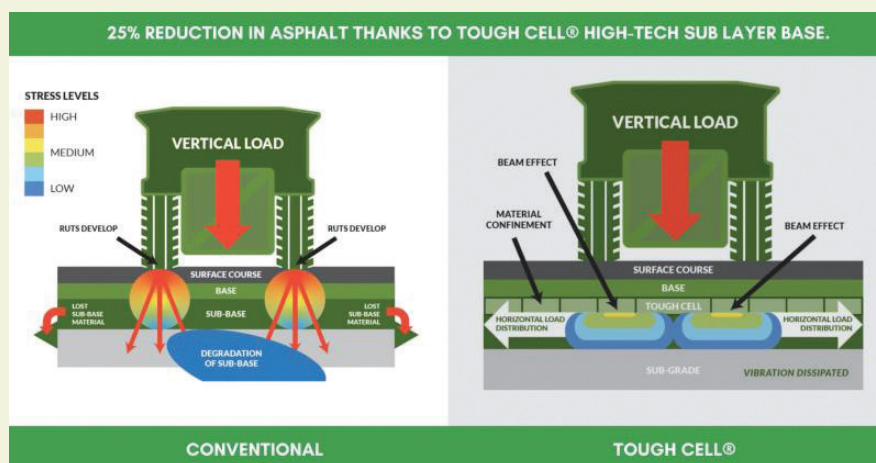
"This means that when you build with Tough Cell, asphalt life can generally be expected to increase by up to 50 per cent," says Duncan Sutherland, Paradox's regional representative for Saskatchewan and Manitoba. "The inevitable scheduled maintenance rebuild will be further down the road and cheaper as well, only having the deal with

the top 50 mm of gravel and replacement of asphalt for an effective rebuild.”

“The overall cost to the town and long-term durability were key factors in making this decision to move forward with Tough Cell,” says Cherpin. “Paradox told us we could use our own equipment resources if we wished, and they would be there to make sure everything went smoothly, and it did.”

“When it comes to road design and construction, it’s important to remember that each project has its own set of unique factors that require thorough consideration in order to establish the optimal project design and construction methodology,” says Sutherland. Paradox also has experienced engineering partners to offer guidance and turn-key civil engineering services, specializing in geosynthetic stabilization.

“For some projects and repairs, traditional methods may serve best – for others, leveraging more advanced technologies, such as geosynthetic textiles and Tough Cell NPA geocells, may substantially enhance a project’s KPIs,” says Sutherland.



The Tough Cell versus conventional solutions in action.

Putting the town first

From concept to installation, the project met the needs of the town. “Before I retire, I would sure like to see those historical problem areas fixed, and we are on the right track,” says an enthusiastic Cherpin. “This fall’s temperature fluctuations haven’t impacted the road and the feedback we are getting from the community is outstanding.

We look forward to seeing what spring brings and maybe even building more Tough Cell roads in 2021.”

Marie Davis, MA, BSc., is a digital specialist and content writer with Polar Lights Media. David has worked in industries ranging from energy and EPC to education and technology, learning new technologies and telling stories.

Street sweepers and so much more.

schmidt Street King 660

aebi-schmidt-ca.com

From street sweeping and pavement marking, to de-icing and runway cleaning Aebi-Schmidt Canada has the expertise and products to meet your needs. Visit our website or call to start a conversation today.

2800-630 boul. René-Lévesque O | Montreal, Quebec, H3B 1S6 | 581-988-2779

aebi schmidt
group

INDEX TO ADVERTISERS

ANTI CORROSION SYSTEMS

Denso North America Inc. 17

ASPHALT PLANT MANUFACTURER

Asphalt Drum Mixers IFC, 3

ASPHALT RECYCLERS AND CABLE

PULLING/WINCHES

reclaimasphalt.com & winchkraft.ca 25

BLACKTOP REPAIR PRODUCT SPECIALISTS

W.R. Meadows of Western Canada 22

BUILDING SCIENCE CONSULTING AND ENGINEERING

Sameng Inc. 20

BULK FUEL DELIVERY

United Farmers of Alberta Co-operative Ltd. 10

CONSTRUCTION MATERIALS

Brock White 17

GEOSYNTHETIC MATERIALS

Nilex 8

HEATED WIPER BLADES

Everblades Inc. 24

HEAVY DUTY SPECIALTY COATINGS

NLS Products Insert

LAW FIRMS

Civic Legal 22

MARKING FLAGS AND MARKING PRODUCTS

Blackburn Mfg. OBC

PARADOX ACCESS SOLUTIONS

Paradox Access Solutions 4

PIPING AND WATER SOLUTIONS

Insituform Technologies Limited 20

RMA BUSINESS SERVICES (RURAL MUNICIPALITIES OF ALBERTA)

RM Alberta 12

SEALS

Cretex Specialty Products 8

SEWER CAMERA CRAWLER WHEELS AND PARTS

Tru Grit Traction Inc. 20

SEWER LINE RAPID ASSESSMENT TOOL

InfoSense, Inc. 8

SNOW AND GRADER BLADES

Valley Blades 6

SNOW CLEANING EQUIPMENT

Horst Welding 34

STREET SWEEPERS

Schwarze IBC

STREET SWEEPERS AND SPREADERS

Aebi Schmidt Canada Inc. 33

UTILITY POLES

RS Technologies Inc. 26

VEHICLE SUNVISORS

Rosen Sunvisor Systems 24

WATER CONTAINMENT SPECIALISTS

Petro Barrier Systems 12

WORKPLACE SAFETY EQUIPMENT

Uline Shipping Supplies 12



DESIGNED FOR HARSH CONDITIONS



The HLA SnowWing is built for those who like to lead the assault against snow. Designed to fly in different formations the SnowWing is adaptable to any snow clearing task replacing a variety of other snow blades with a single tool.

It features patented Rotary Actuators, Tire Protection System, and an exclusive removeable wing tip (5 foot wings only) for clearance under low overhangs such as trailer pins.

Contact your local dealer for more information.



www.hlasnow.com 1.866.567.4162

PERFORMANCE MATTERS!



WHEN IT COMES TO POLLUTION REMOVAL FROM STREETS & CATCH BASINS.



Pollution removal from impervious surfaces and catch basins requires high performance, regenerative air or pure vacuum technology. No other sweeper manufacturer understands stormwater regulations better than Schwarze. We also understand the challenges public works and stormwater managers face to meet these requirements while keeping the public informed and funds properly managed. Our holistic approach helps managers select the right sweeper technology for their infrastructure. We address performance optimization, because the more pounds removed per impervious acre puts you one step closer to your stormwater goal. We also help you address outreach and public participation with educational sweeper wraps. **Ask about our free wrap promotion!**

Visit our stormwater page at schwarze.com/stormwater to learn more and watch case studies.

OKOTOKS, AB CASE STUDY



SCAN WITH
SMARTPHONE
CAMERA

**CONTACT
A DEALER**

CUBEX LTD

877.462.8239

CUBEXLTD.COM

MACFARLANDS INDUSTRIAL

902.468.2999

MACFARLANDSINDUSTRIAL.COM

**OR
CALL US
FOR A DEMO**

SCHWARZE INDUSTRIES, INC.

800.879.7933

SCHWARZE.COM



THE ORIGINAL & STILL THE BEST.

Blackburn Mfg. Company was started by E.A. "Bud" Blackburn in the basement of a small family homestead near Royal Nebraska. Bud's uncle, Ray Blackburn, asked him if he could come up with a machine to attach a piece of cloth or paper to a piece of wire. Bud, a farmer by trade but a "tinkerer" at heart, would over the next couple of years, invent a Marking Flag machine to mass produce marking flags using a small piece of vinyl attached to a wire staff. The first flag order was for one million flags!

While it's not as simple as "one size for all" anymore, you will see that we have a wide array of marking products available that can be shipped worldwide.

Please let us know how we can help you design **YOUR** mark!



BLACKBURN MFG. CO.

1-800-942-5816
WWW.BLACKBURNFLAG.COM
SALES@BLACKBURNFLAG.COM



BLACKBURN
MARKING FLAGS & MARKING PRODUCTS

Designed to Leave Your Mark